ECS501 ROUTER

The diagram above shows the design of the ecs501 router. The router is shown to have a feeder which reads packets from a csv file and channels them onto their respective input queues. While that occurs, the packets which arrive on the input queues are channelled onto the main queue via a demultiplexer. Finally, packets arriving in the main queue are also channelled via a de-multiplexer to their respective output queues.

A key thing to note is that all these things happen almost simultaneously. The multiplexer and de-multiplexer both begin their work once packets start arriving in the queues which concern them.

-FOR EVIDENCE OF A STRUCTURED APPROACH TO DESIGN AND PROGRAMMING, PLEASE VISIT https://github.com/Nnadozie/router-simulation

-FLOW CHART IS ON THE NEXT PAGE

A FLOW CHART SHOWING HOW THE DIFFEENT COMPONENTS INTERACT

BEGIN

ASK USER TO INPUT THE SETTINGS FOR LAYER 2 AND LAYER 3 PAYLOAD ARRAY LENGTHS. AND ALSO THE INPUT. MAIN. AND OUTPUT QUEUE LENGTHS

FEEDER

MULTIPLEXING

DE MULTIPLEXING

MULTIPLEXER

MULTIPLEXING OR DEMULTIPLEXING NEEDED?

DEMULTIPLEXER

WAIT FOR IT TO FINISH

FINISHED?

FINISHED?

YES

NO

NO

YES

MAIN QUEUE EMPTY?

YES

END

NO